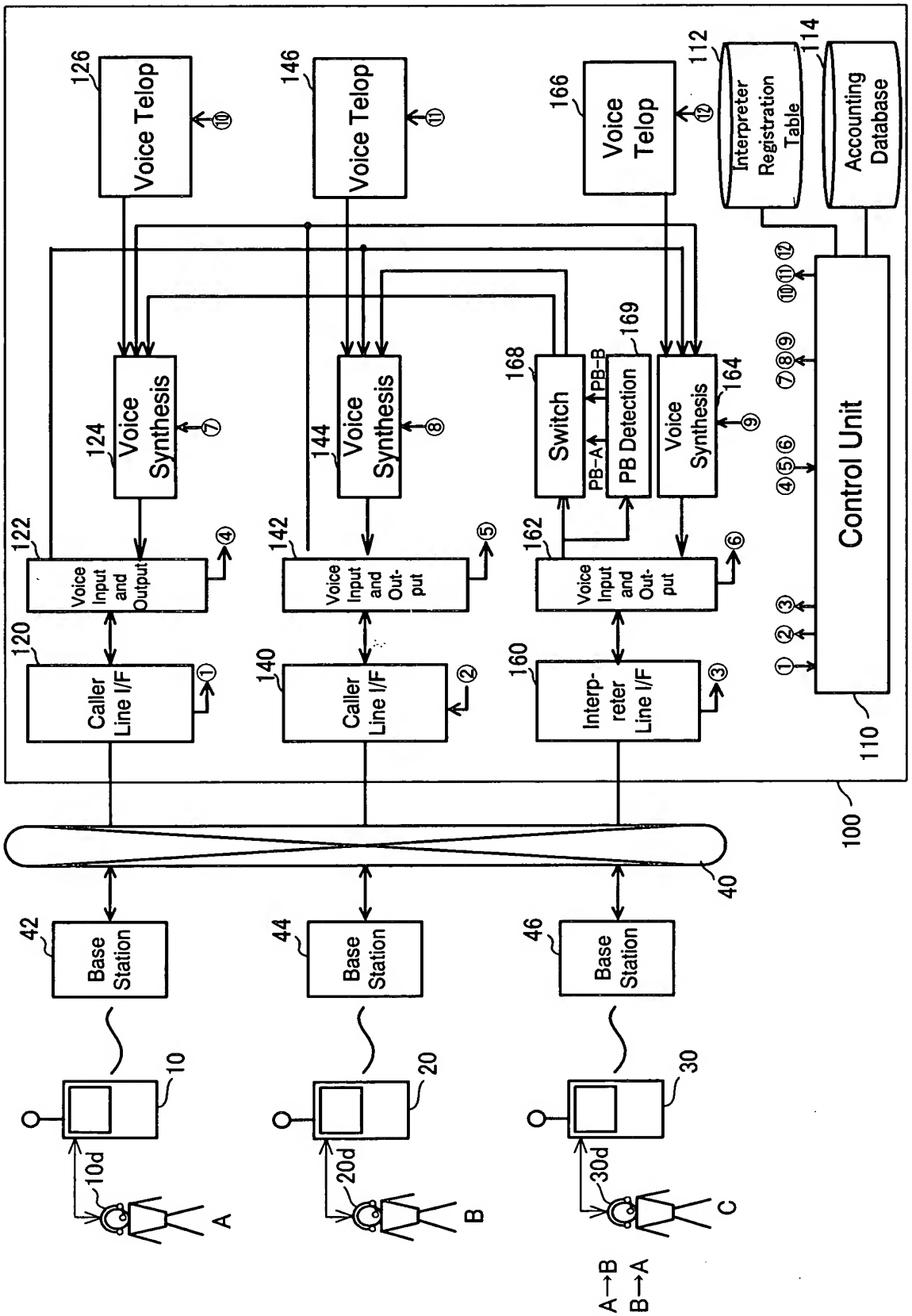
Fig.1


Voice Telop
126
146
166
112
Interpreter Registration Table
114
Accounting Database
Voice Synthesis
124
144
168
Switch
PB-A
PB-B
169
PB Detection
164
Control Unit
122
142
162
Voice Input and Output
120
140
160
Caller Line I/F
Interp-reter Line I/F
110
100
40
Base Station
42
44
46
10
20
30
10d
20d
30d
A
B
C
A→B
B→A

Interpreter Regstration Table

Name	Gender	Age	Language							Fields of Specialization									Terminal Number	Availability Flag
			Japanese	English	German	French	Spanish	Russian	Chinese	Politics	Law	Business	Education	Science & Technology	Medical	Linguistics	Sports	Hobbies		
XXXX	Male	45	1	1	2					O	O	O							XX-XXXX-XXXX	O
XXXX	Female	25	2	1		1	1	3					O			O			XX-XXXX-XXXX	O
XXXX	Male	33	1	2					1					O			O		XX-XXXX-XXXX	×
⋮																				

Fig.2

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Fig.3

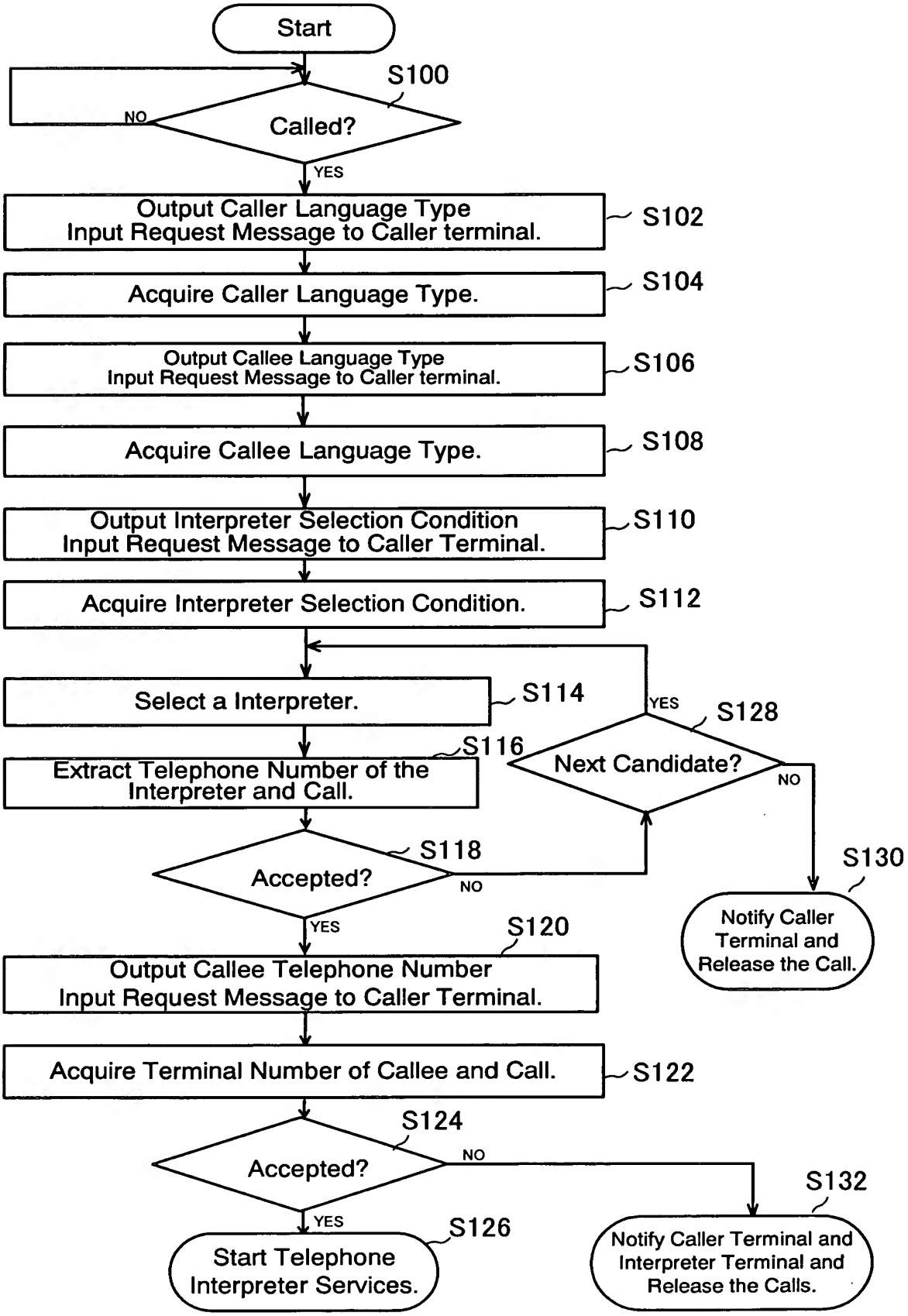
Start
S100
Called?
NO
YES
Output Caller Language Type
Input Request Message to Caller terminal.
S102
Acquire Caller Language Type.
S104
Output Callee Language Type
Input Request Message to Caller terminal.
S106
Acquire Callee Language Type.
S108
Output Interpreter Selection Condition
Input Request Message to Caller Terminal.
S110
Acquire Interpreter Selection Condition.
S112
Select a Interpreter.
S114
Extract Telephone Number of the Interpreter and Call.
S116
Accepted?
S118
NO
YES
Next Candidate?
S128
YES
NO
S130
Notify Caller Terminal and Release the Call.
Output Callee Telephone Number
Input Request Message to Caller Terminal.
S120
Acquire Terminal Number of Callee and Call.
S122
Accepted?
S124
NO
YES
S126
Start Telephone Interpreter Services.
S132
Notify Caller Terminal and Interpreter Terminal and Release the Calls.

Fig.4

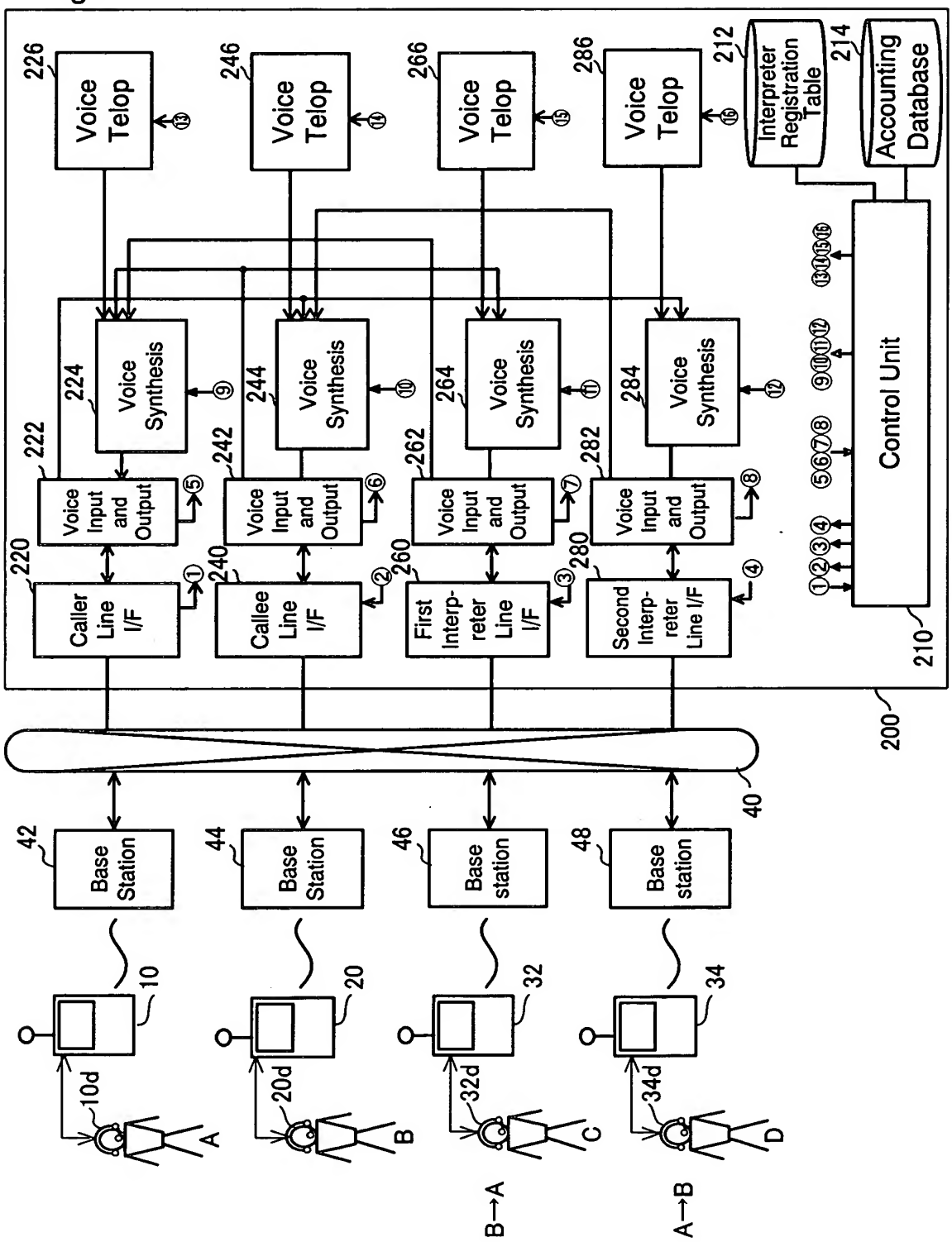
Voice Telop
Voice Telop
Voice Telop
Voice Telop
Interpreter Registration Table
Accounting Database
Voice Synthesis
Voice Synthesis
Voice Synthesis
Voice Synthesis
Voice Input and Output
Voice Input and Output
Voice Input and Output
Voice Input and Output
Caller Line I/F
Callee Line I/F
First Interp-reter Line I/F
Second Interp-reter Line I/F
Control Unit
Base Station
Base Station
Base station
Base station
10
20
32
34
10d
20d
32d
34d
A
B
C
D
B→A
A→B
200
210
40
220
222
224
226
240
242
244
246
260
262
264
266
280
282
284
286
212
214

Fig.5

Interpreter Registration Table

Name	Gender	Age	Language							Fields of Specialization									Terminal Number	Availability Flag
			Japanese	English	German	French	Spanish	Russian	Chinese	Politics	Law	Business	Education	Science & Technology	Medical	Linguistics	Sports	Hobbies		
XXXX	Male	45	1	1	1					O	O	O							XX-XXXX-XXXX	O
			1	1	2															
XXXX	Female	25	2	1		1	1	2					O			O			XX-XXXX-XXXX	O
			3	1		1	2	3												
XXXX	Male	33	1	1					1					O			O		XX-XXXX-XXXX	×
			1	2					1											
▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪																				

Note: In language columns, level of listening comprehension is shown in upper row and level of speaking ability in lower row.

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Fig.6

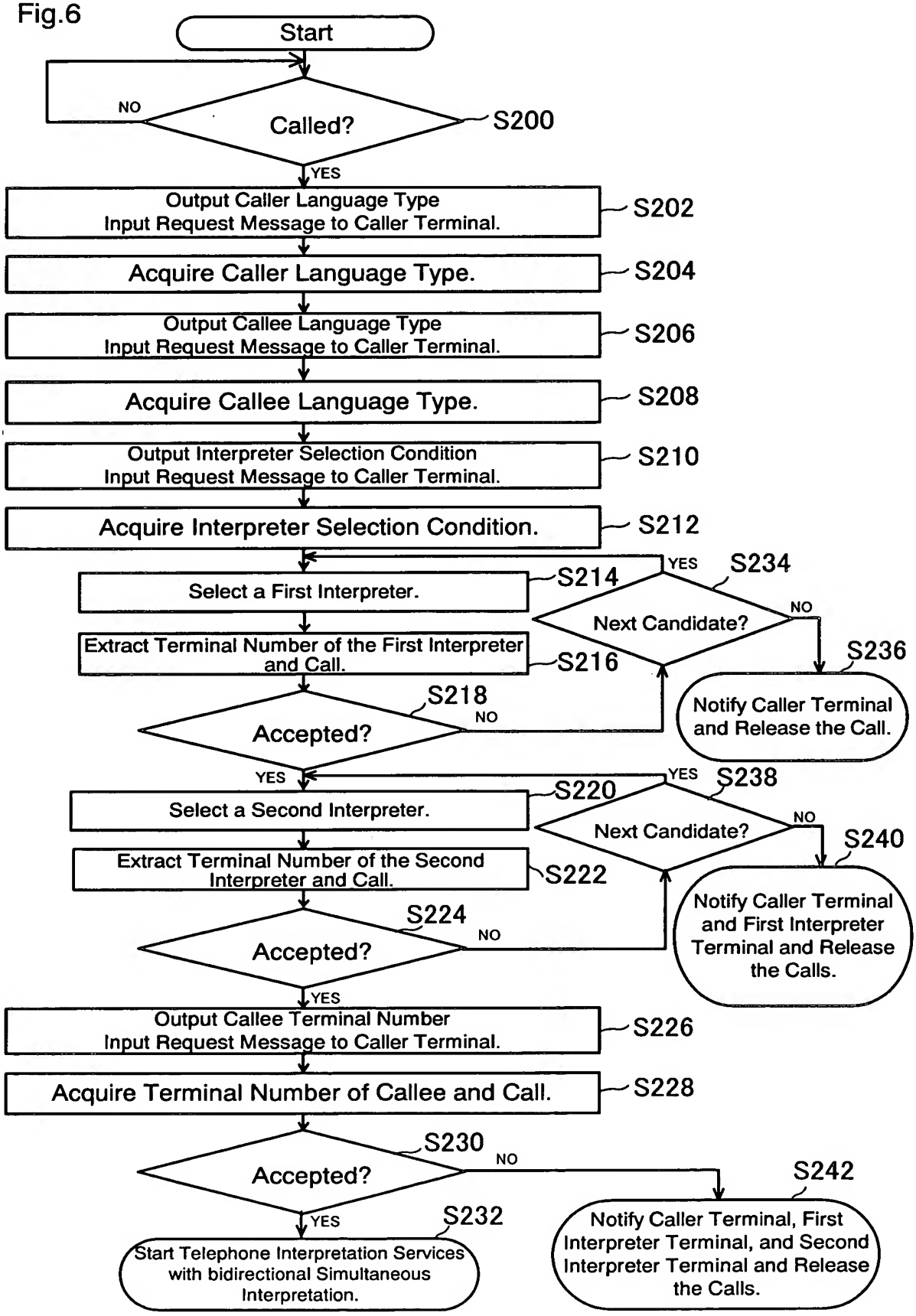

Start
Called?
NO
YES
S200
Output Caller Language Type
Input Request Message to Caller Terminal.
S202
Acquire Caller Language Type.
S204
Output Callee Language Type
Input Request Message to Caller Terminal.
S206
Acquire Callee Language Type.
S208
Output Interpreter Selection Condition
Input Request Message to Caller Terminal.
S210
Acquire Interpreter Selection Condition.
S212
Select a First Interpreter.
S214
Extract Terminal Number of the First Interpreter and Call.
S216
Accepted?
S218
NO
YES
Next Candidate?
S234
YES
NO
S236
Notify Caller Terminal and Release the Call.
Select a Second Interpreter.
S220
Extract Terminal Number of the Second Interpreter and Call.
S222
Accepted?
S224
NO
YES
Next Candidate?
S238
YES
NO
S240
Notify Caller Terminal and First Interpreter Terminal and Release the Calls.
Output Callee Terminal Number
Input Request Message to Caller Terminal.
S226
Acquire Terminal Number of Callee and Call.
S228
Accepted?
S230
NO
YES
S232
Start Telephone Interpretation Services with bidirectional Simultaneous Interpretation.
S242
Notify Caller Terminal, First Interpreter Terminal, and Second Interpreter Terminal and Release the Calls.

Fig.7

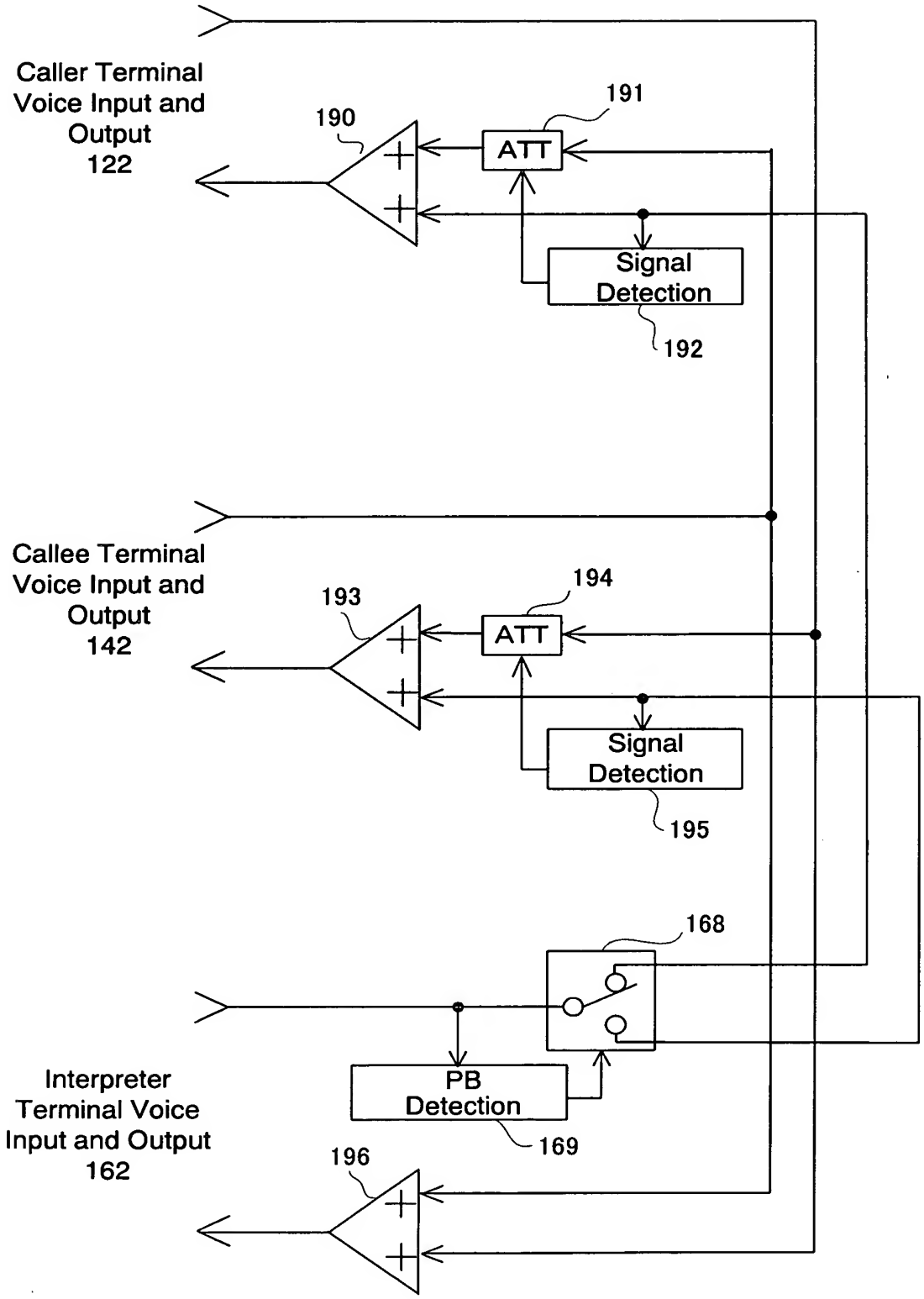

Caller Terminal Voice Input and Output 122
190
191
ATT
Signal Detection
192
Callee Terminal Voice Input and Output 142
193
194
ATT
Signal Detection
195
168
Interpreter Terminal Voice Input and Output 162
PB Detection
169
196

Fig.8

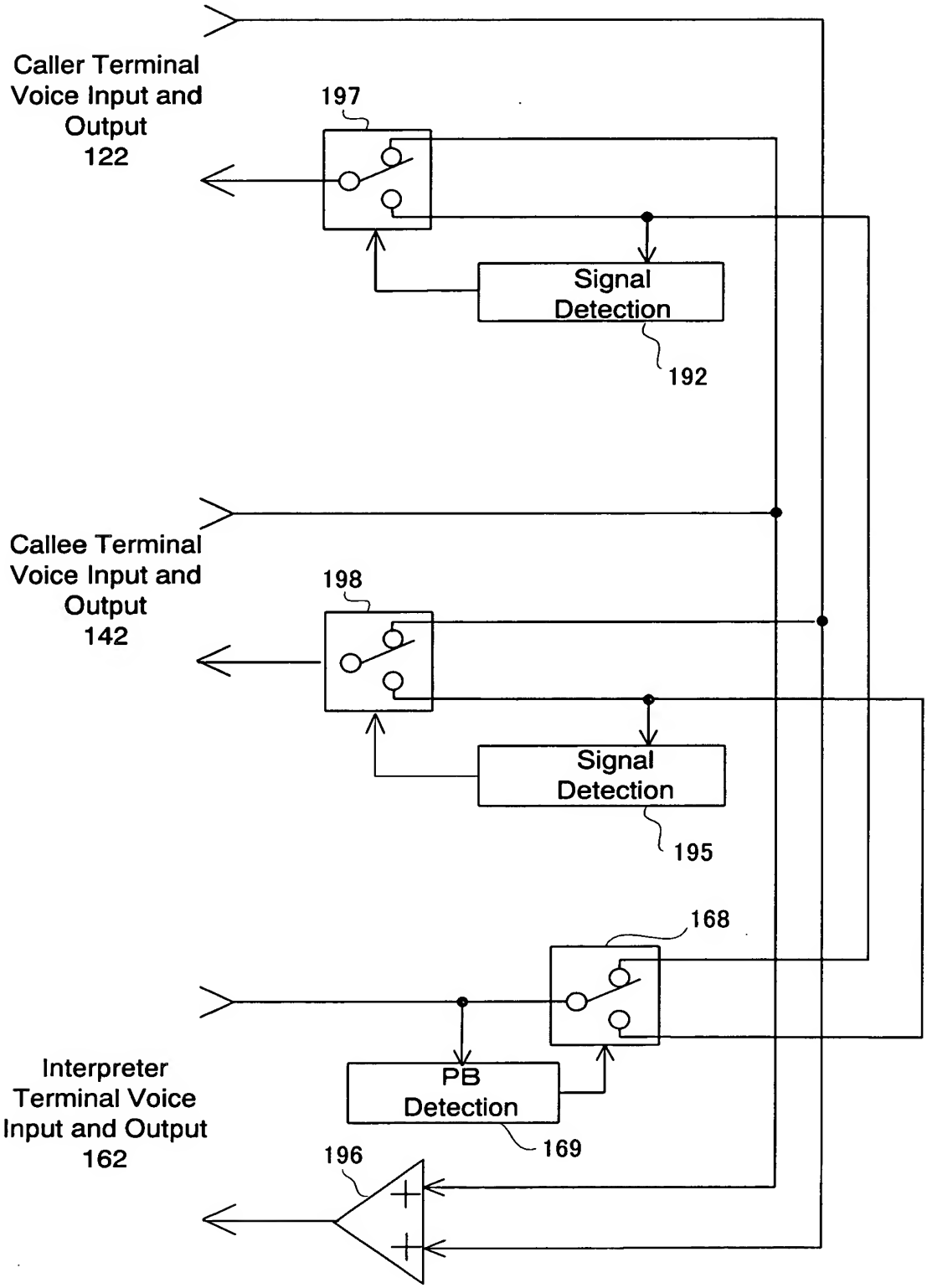

Caller Terminal Voice Input and Output 122
197
Signal Detection
192
Callee Terminal Voice Input and Output 142
198
Signal Detection
195
168
Interpreter Terminal Voice Input and Output 162
PB Detection
169
196

Fig.9

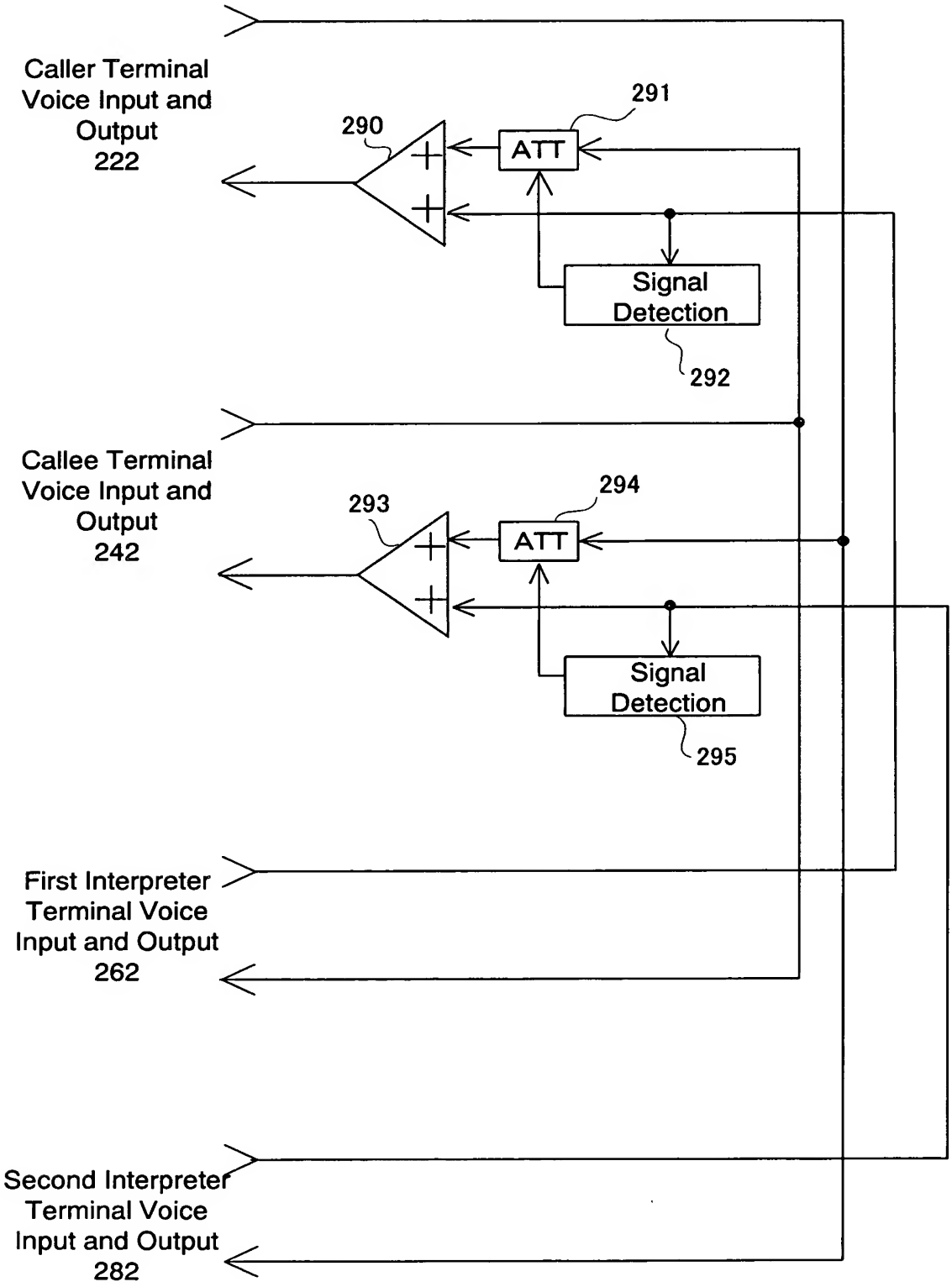

Caller Terminal Voice Input and Output 222
290
291
ATT
Signal Detection
292
Callee Terminal Voice Input and Output 242
293
294
ATT
Signal Detection
295
First Interpreter Terminal Voice Input and Output 262
Second Interpreter Terminal Voice Input and Output 282

Fig.10

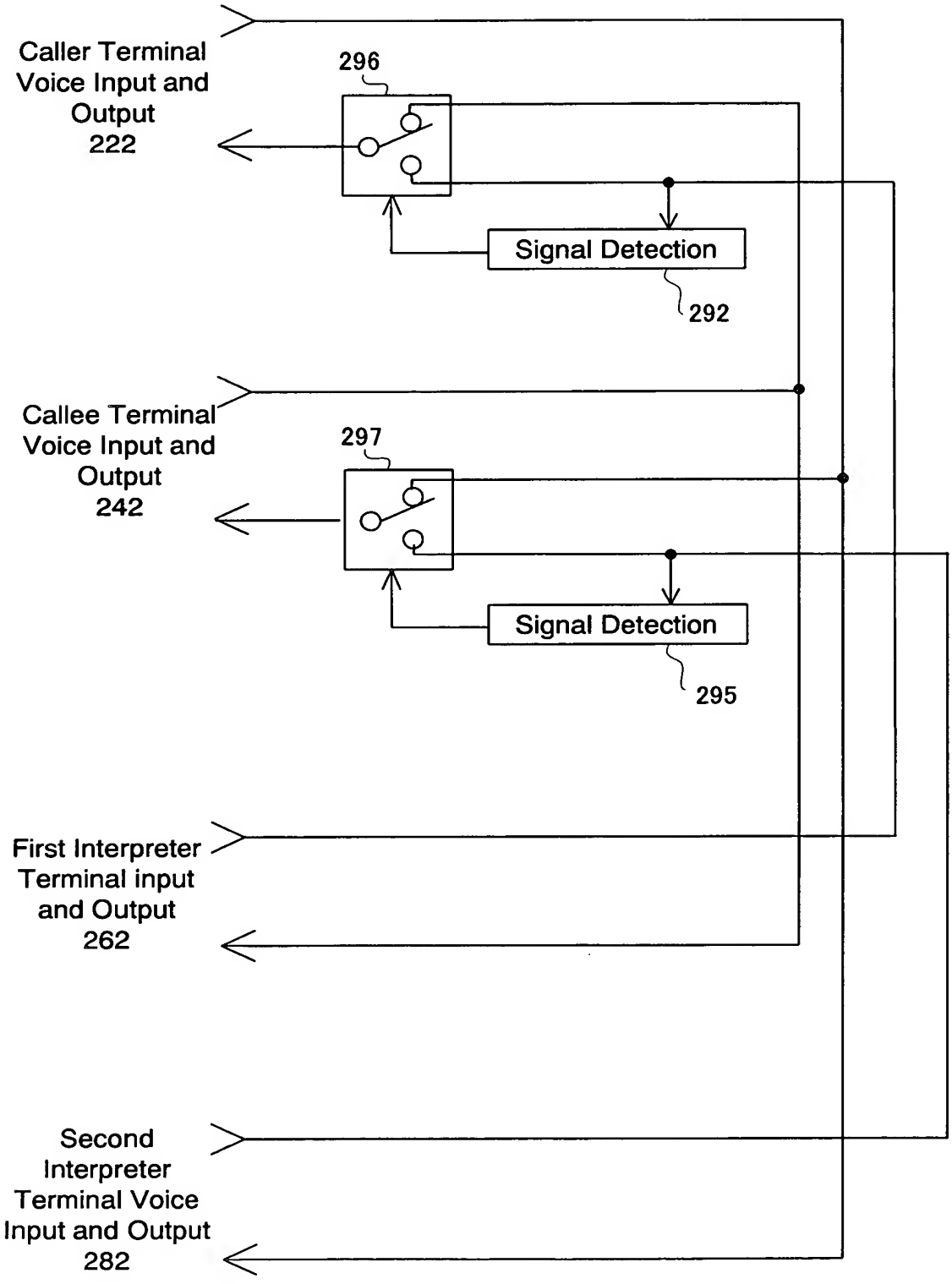

Caller Terminal Voice Input and Output 222
296
Signal Detection
292
Callee Terminal Voice Input and Output 242
297
Signal Detection
295
First Interpreter Terminal input and Output 262
Second Interpreter Terminal Voice Input and Output 282

Fig.11

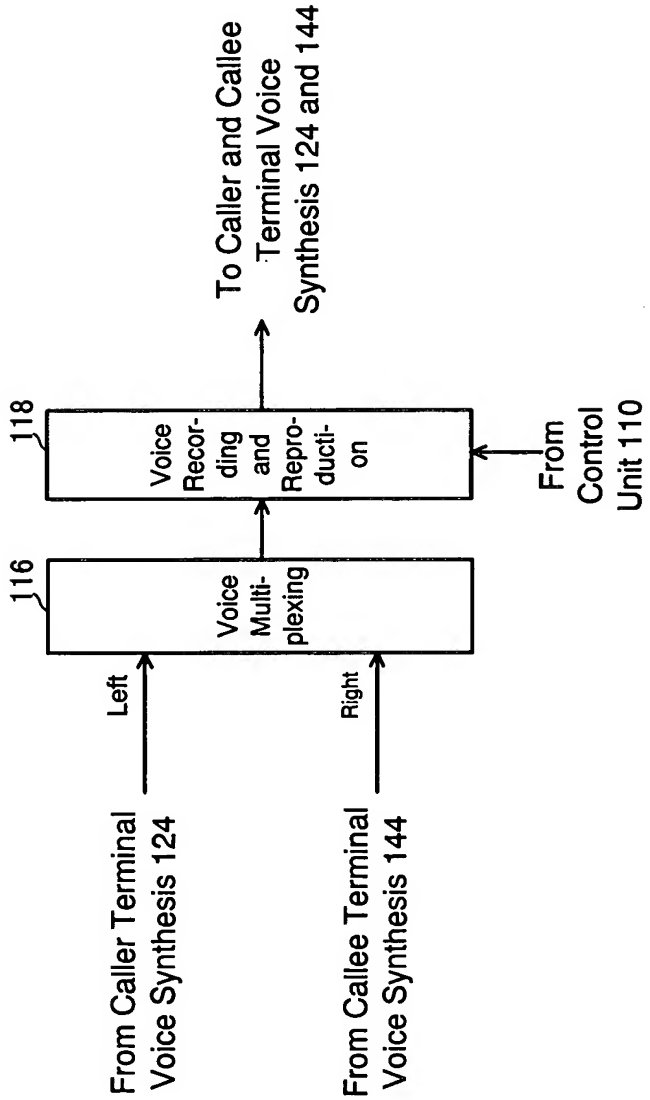
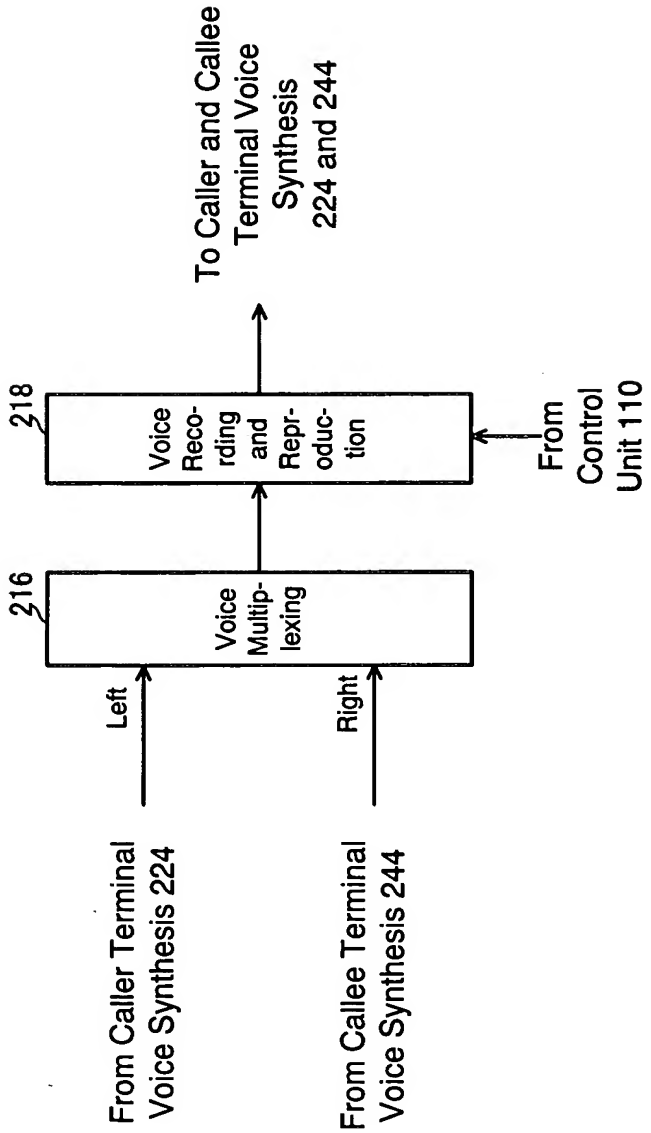

To Caller and Callee Terminal Voice Synthesis 124 and 144
118
Voice Recor-ding and Repro-ducti-on
From Control Unit 110
116
Voice Multi-plexing
Left
Right
From Caller Terminal Voice Synthesis 124
From Callee Terminal Voice Synthesis 144

Fig.12


To Caller and Callee Terminal Voice Synthesis 224 and 244
218
Voice Recording and Reproduction
From Control Unit 110
216
Voice Multiplexing
Left
Right
From Caller Terminal Voice Synthesis 224
From Callee Terminal Voice Synthesis 244